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## ABSTRACT

A high-power semiconductor module (10) has flat semiconductor chips (14) which rest with their lower face flat on a base plate (11), establishing first electrical contacts, and have a cover plate (13), which is arranged parallel to the base plate (11), applied to their upper face with pressure, establishing second electrical contacts. Simplified cooling is made possible in that those faces, or outer faces, of the base plate (11) and of the cover plate (13) which face away from the semiconductor chips (14) are each electrically isolated from the semiconductor chips (14). In an area located outside the semiconductor chips, pressure can be applied to the first metal coating (19) by the cover plate (13), thus establishing a third electrical contact. The third electrical contact can be established via a second electrically conductive, elastic connecting element, preferably in the form of a second contact spring (16).